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Abstract

alpha-Synuclein-containing aggregates represent a feature of a variety of neurodegenerative disorders, including Parkinson's disease (PD).

The aggregation of alpha-synuclein is believed to play an important role in the pathogenesis of Parkinson's disease as well as other neurodegenerative disorders.

Parkinson's disease (PD) is a common neurodegenerative disorder that displays both sporadic and inherited forms. Exposure to environmental factors such as pesticides and herbicides has been implicated in the development of PD.

How genetic and environmental factors interact in Parkinson disease is poorly understood. We have now compared the genetic profiles of patients with sporadic and familial forms of PD.

Parkinson's disease (PD) is a progressive neurodegenerative disorder contributed by the combination of age, genetic and environmental factors.

The factors initiating or contributing to the pathogenesis of Parkinson's disease and related neurodegenerative synucleinopathies remain to be fully elucidated.

Extensive epidemiological data in humans and studies in animal models of Parkinson's disease (PD) suggest that sporadic PD may be triggered by environmental factors.

Environmental paraquat and neonatal iron exposure have both separately been suggested as potential risk factors for sporadic PD.

As Parkinson's disease appears to be a multifactorial disorder, the use of animal models to investigate combined effects of environmental and genetic factors is likely to provide new insights into the pathophysiology of PD.

Does the full text suggest this article contains relevant data?	AniPrim	AniSec	InvAll	Does this article contain ADME data?	Initial review	Species
YesArticle		AniSec	InvAll		1	Mice
YesArticle		AniSec		NOADME		
YesArticle	Add to HAWC	AniSec		NOADME	1	Drosophila
YesArticle		AniSec			1	C. elegans
YesArticle		AniSec		NOADME	1	Mice
YesArticle		AniSec			1	Mice
YesArticle	AniPrim	AniSec	InvAll		1	Mice
YesArticle		AniSec	InvAll		1	Mice
YesArticle	AniPrim	AniSec	InvAll			Mouse

Exposure duration	Doses	Protein aggregation/pathology (alpha synuclein, Tau phosphorylation)	Quantification of DA neurons, TH-positive cells
subacute (3 weeks, dosed once per week, animals sacrificed 2 or 7 days after dose)	10 mg/kg, intraperitoneal	alpha synuclein protein expression in the ventral mesencephalon and alpha synuclein aggregates in TH-positive neurons in the SNpc	
acute (8-40 hours)	100 uM or 20 mM, diet (filter paper)		TH-positive cells
acute (24 hours)	500 uM		
subacute (3, 6, or 9 weeks, dosed twice per week)	10 mg/kg, intraperitoneal		
subacute (3 weeks, twice per week)	5 or 10 mg/kg (5 mg/kg in 3 mo mice; 10 mg/kg in 8 and 12 mo mice)		
subacute (3 weeks, twice per week)	8 or 10 mg/kg (8 mg/kg for 24 mo old; 10 mg/kg for 2, 6, 12 mo old)		TH-positive cells in the SNpc
subacute (3 weeks, twice per week)	10 mg/kg intraperitoneal		